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IS 3314 (1984): steel clothes lockers - Specification [CED  
35: Furniture]

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“Knowledge is such a treasure which cannot be stolen”





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*Indian Standard*  
SPECIFICATION FOR  
STEEL CLOTHES LOCKERS  
*( Second Revision )*

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INDIAN STANDARDS INSTITUTION  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

*Indian Standard*SPECIFICATION FOR  
STEEL CLOTHES LOCKERS( *Second Revision* )

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( *Continued on page 2* )

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## *Indian Standard*

### SPECIFICATION FOR STEEL CLOTHES LOCKERS

( *Second Revision* )

#### 0. F O R E W O R D

**0.1** This Indian Standard ( Second Revision ) was adopted by the Indian Standards Institution on 30 January 1984, after the draft finalized by the Furniture Sectional Committee had been approved by the Civil Engineering Division Council.

**0.2** This standard was first published in 1965 and subsequently revised in 1976. In this revision the grades of materials to be used in components have been given.

**0.3** This standard contains clause 10 which requires the purchaser to supply certain information at the time of placing orders.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2 - 1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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#### 1. SCOPE

**1.1** This standard covers the requirements for materials, size, construction and finish of steel clothes lockers with hinged doors.

#### 2. MATERIALS

**2.1** **Electrodes** — The welding electrodes for gas, arc and spot welding shall conform to IS : 1278-1973†, IS : 814 ( Part 2 )-1974‡ and IS : 4972 - 1968§ respectively.

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\*Rules for rounding off numerical values (*revised* ).

†Specification for filler rods and wires for gas welding (*second revision* ).

‡Specification for covered electrodes for metal arc welding of structural steel: Part 2 For welding sheets (*fourth revision* ).

§Specification for resistance spot-welding electrodes.

**2.2 Mild Steel sheets** — Mild Steel sheets shall conform to grade 0 of IS : 1079-1973\* or grade 0 of IS : 513-1973†.

**2.3 Screws** — Screws shall conform to IS : 1365 - 1978‡.

### 3. TYPES

**3.1 Clothes lockers** shall be of the following four types (*see Fig. 1*).

- a) 6-locker type,
- b) 8-locker type,
- c) 12-locker type, and
- d) 18-locker type

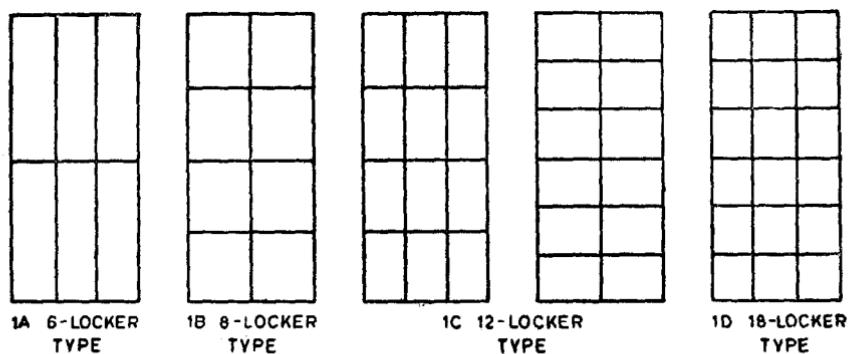


FIG. 1 DIVISION OF COMPONENTS FOR DIFFERENT TYPES OF CLOTHES LOCKERS

### 4. DIMENSIONS AND TOLERANCES

**4.1 Dimensions** — The overall dimensions of clothes lockers shall be as follows:

Height	1 855 mm (excluding pedestal height)
Width	910 mm
Depth	480 mm

**NOTE** — The minimum clearances required for the clothes lockers to be put into recesses or openings, where required, shall be as follows:

For top	20 mm
For each side	10 mm
For depth	5 mm

\*Specification for hot rolled carbon steel sheet and strip (*third revision*).

†Specification for cold rolled carbon steel sheets (*second revision*).

‡Specification for slotted countersunk head screws (*third revision*).

**4.2 Tolerances** — The overall dimensions specified in **4.1** shall not vary more than  $\pm 5$  mm.

## 5. FABRICATION

**5.1 Sides** — The sides shall be made from mild steel sheets not less than 0·8 mm thick and without any burrs or dents. The width of the side sheets shall correspond to the depth of the top and shall extend between the extreme surfaces of top and bottom.

**5.2 Back** — The back shall be made from mild steel sheets not less than 0·8 mm thick and without any burrs or dents. The width of the back sheet shall correspond to the width of the top and shall extend between the extreme surfaces of top and bottom.

**5.3 Top and Bottom** — The length of the top and bottom shall cover the width and the breadth shall cover the depth. These shall be made from mild steel sheet not less than 0·8 mm thick, and without any burrs or dents.

**5.4 Partitions and Shelves** — Partitions and shelves for lockers shall be manufactured from mild steel sheet not less than 0·8 mm thick. The joints shall be made by flanging the sheets to a width of at least 15 mm. The arrangement for division of compartment shall be as shown in Fig. 1.

**5.5 Doors** — Each locker shall be fitted with a flush-fitting single door made from mild steel sheet not less than 0·8 mm thick. The edges of the door shall be bent into a double return at least 12 mm deep and 10 mm wide. Except when the purchaser specifies another type of vent, each door shall be fitted with two louvered vents.

**5.5.1** The door shall swing on butt type hinges and shall have a key slot in front at the middle of the height.

**5.6 Pedestal** — The pedestal shall be made from mild steel sheet not less than 0·8 mm thick and shall be properly stiffened. The height of the pedestal shall be  $125 \pm 5$  mm.

**5.7 Hinges** — The hinges shall be either plain butt type made from mild steel sheet not less than 1·6 mm thick or double folded type fabricated from mild steel sheet not less than 1·25 mm thick.

**5.8 Handle** — Each door shall be fitted with mild steel or aluminium handle. The mild steel handle shall be either electroplated or painted. The aluminium handle shall be anodized and the anodic coating shall not be less than grade AC 10 of IS : 1868-1968\*. The handle shall be fixed to the door front by means of machine screws or spot welding.

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\*Specification for anodic coatings on aluminium (*first revision*).

**5.9 Lock** — This shall be a 5-lever lock conforming to IS : 729 - 1979\* or 5-pin cylinder lock.

**5.9.1** Six and 8-locker type clothes lockers shall have the internal locking arrangement and 12- and 18-locker type clothes lockers shall either be fitted with a hasp and staple or shall have a built-in hasp and staple arrangement.

## **6. ASSEMBLY**

**6.1** The various components shall be assembled by means of screwing, bolting or welding.

**6.2** The method of gas welding arc welding and spot welding shall conform to IS : 1323-1966†, IS : 816-1969‡ and IS : 819 - 1957§ respectively.

## **7. ADDITIONAL ACCESSORIES**

**7.1** The following additional accessories may be provided if so desired by the purchaser:

- a) *Coat Hooks* — Coat hooks for 6-locker type shall be of mild steel or aluminium and shall be ball pointed; these shall be nickel or chromium plated conforming to IS : 1068-1968|| or anodized in the case of aluminium and fitted in the centre of the underside of the shelf.
- b) *Number Plates* — Lockers shall be provided with polished aluminium number plates with black numerals fixed to the top of door front.
- c) *Hanging Rod* — This shall be of mild steel tubular pipe conforming to IS : 7138-1973¶ or aluminium tubular pipe with a wall thickness of not less than 1.6 mm and 20 mm in diameter. The mild steel hanging rod shall be covered with an aluminium sheet not less than 0.56 mm and in the case of aluminium hanging rod it shall be anodized or buffed. The hanging rod shall be fitted to the lockers with suitable brackets.

## **8. FINISH**

### **8.1 Steel Sheet Components**

**8.1.1** All dents, burrs and sharp edges shall be removed from the various components. The components shall be individually pickled, scrubbed and rinsed to remove grease, rust, scale or any other foreign element.

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\*Specification for drawer locks, cupboard locks and box locks (*third revision*).

†Code of practice for oxy-acetylene welding for structural work in mild steel (*first revision*).

‡Code of practice for use of metal arc welding for general construction in mild steel (*first revision*).

§Code of practice for resistance spot welding for light assemblies in mild steel.

||Specification for electroplated coatings of nickel chromium on iron and steel (*first revision*).

¶Specification for steel tubes for furniture purposes.

**8.1.2** Immediately after pickling, all the mild steel parts shall be given phosphating treatment conforming to class C of IS : 3618 - 1966\*. The process for application of phosphate coating shall be in accordance with IS : 6005-1970†.

NOTE — Putty shall be applied to all the surfaces requiring filling and shall conform to IS : 110 - 1968‡. Aluminium primer shall conform to IS : 5660 - 1970§.

**8.1.3** Coat/coats of enamel paint shall then be applied as follows:

- a) Finish coat with enamels conforming to IS : 151-1950||, IS : 2932-1974|| or IS : 2933-1975\*\*; and
- b) In case of stoving enamel the components shall thereafter be baked at a specified temperature in an even heated uniformly. The finish shall be smooth and uniform with hard and tough film of enamel strongly adhering to the surface. The finish shall be free from all visible defects and shall not chip when tapped lightly with a dull pointed instrument.

**8.2** All other components shall be finished in colour as agreed to between the purchaser and the manufacturer.

## 9. PERFORMANCE REQUIREMENTS OF FINISH

**9.1 Scratch Hardness Test** — A sample of mild steel plate 150 × 50 mm in size and thickness 0·315 mm and finished as given in 8 shall be subjected to scratch hardness test in accordance with 15.1 of IS : 101-1964††. A scratch showing the bare metal shall not be produced on the test sample.

**9.2 Pressure Test** — Samples prepared from mild steel plates of thickness 0·315 mm and finished as given in 8 shall be subjected to pressure test in accordance with 15.2 of IS : 101 - 1964††. The metal surface shall not be rendered visible when the test pieces are separated after the test.

**9.3 Flexibility and Adhesion Test** — A sample of mild steel plate 150 × 50 mm in size and thickness 0·315 mm and finished as given in 8 shall be subjected to flexibility and adhesion test in accordance with 16 of IS : 101-1964††. The paint film on the test piece shall not show damage, detachment or cracking when examined under ×10 magnification.

\*Specification for phosphate treatment of iron and steel for protection against corrosion.

†Code of practice for phosphating of iron and steel.

‡Specification for ready mixed paint, brushing, grey filler, for enamels, for use over primers (*first revision*).

§Specification for ready mixed paint, brushing, aluminium red oxide primer.

||Specification for ready mixed paint, spraying, finishing, stoving, enamel for general purposes, colour as required.

\*\*Specification for enamel, synthetic, exterior (a) undercoating, (b) finishing (*first revision*).

††Specification for enamel, exterior (a) undercoating, (b) finishing (*first revision*).

††Methods of test for ready mixed paints and enamels (*second revision*).

**9.4 Stripping Test** — A sample of mild steel plate  $150 \times 50$  mm in size and thickness 0.315 mm and finished as given in 8 shall be subjected to stripping test in accordance with 17 of IS : 101-1964\*. The scratch produced after the test shall be free from jagged edges.

**9.5 Test for Protection Against Corrosion Under Conditions of Condensation** — A mild steel panel of size  $150 \times 100$  mm and thickness 1.25 mm finished as given in 8 shall be subjected to test for protection against corrosion under conditions of condensation in accordance with 18 of IS : 101-1964\*. The metal surface shall show no signs of corrosion after the test.

## 10. INFORMATION TO BE SUPPLIED BY THE PURCHASER

**10.1** The purchaser shall supply the following information to the supplier along with the order:

- a) Type of locker;
- b) Sequence of numbering;
- c) Colour of finish;
- d) Where alternative methods of construction and finish are specified, they shall be clearly stated in order; and
- e) Whether corners to be rounded or not.

## 11. PACKING

**11.1** All the components parts shall be packed in such a way that no damage is caused to them during transit.

## 12. MARKING

**12.1** All steel clothes lockers shall be marked with a suitable mark identifying the manufacturer.

**12.1.1** The steel clothes lockers may also be marked with the ISI Certification Mark.

**NOTE** — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

\* Methods of test for ready mixed paints and enamels ( second revision ).

# INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

## Base Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

## Supplementary Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Plane angle	radian	rad
Solid angle	steradian	sr

## Derived Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>	<i>Definition</i>
Force	newton	N	1 N = 1 kg.m/s <sup>2</sup>
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m <sup>2</sup>
Frequency	hertz	Hz	1 Hz = 1 c/s (s <sup>-1</sup> )
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m <sup>2</sup>

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